DEPARTMENT OF DEMOGRAPHY

The Department of Demography offers a Master of Science degree and a Doctor of Philosophy degree in Applied Demography. The focus of the Ph.D. program is on the application of demographic analysis to policy issues encountered in the public and private sectors. The program faculty has two broad areas of focus: Health and Inequality, and Migration.

- M.S. in Applied Demography (p. 1)
- Ph.D. in Applied Demography (p. 1)

Master of Science in Applied Demography

The Master of Science in Applied Demography will give students a graduate level introduction to the study of population and how the tools of a demographer are used to guide policy decisions. At the end of the degree program, students will be able to: work with large and complex data sources; analyze these data using appropriate statistical tests; graphically present data using statistical techniques and GIS; and write reports and papers based on empirically based questions using real data.

Admission Requirements

Applicants for admission to the MS in Applied Demography must satisfy all University-wide graduate admission requirements and all applicants must possess a bachelor's degree.

Admission to the MS in Applied Demography program will be based on faculty review of the following required application materials:

1. A completed Graduate School Application Form
2. All official academic transcripts detailing completed undergraduate and graduate (if applicable) coursework
3. A letter of application describing the applicant’s academic and work backgrounds and goals and objectives related to the applicant’s MS program
4. A writing sample
5. Three letters of recommendation
6. For international students, results of the Test of English as a Foreign Language (TOEFL; minimum score of 60 on the paper version, 79 on the internet version), or results of the International English Language Testing System (IELTS; a minimum score of 6.5).

Degree Requirements

The degree plan includes 21 hours of foundation (required) courses, 6 hours of free electives, and a 3 hour capstone course that will require a final exit paper.

A. 21 semester credit hours of core courses:

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>DEM 5013</td>
<td>Demographic Methods of Analysis</td>
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<tr>
<td>DEM 5093</td>
<td>GIS for Population Science</td>
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<td>DEM 5113</td>
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<td>DEM 5213</td>
<td>Introduction to Population Data</td>
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<td>DEM 5273</td>
<td>Statistics for Demographic Data I</td>
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<tr>
<td>DEM 5283</td>
<td>Statistics for Demographic Data II</td>
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<tr>
<td>DEM 5033</td>
<td>Mortality</td>
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<tr>
<td>DEM 5043</td>
<td>Migration</td>
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B. 6 semester credit hours of electives approved by the Graduate Advisor of Record.

MS students will have the option to take any of the 7XX3 courses in the Applied Demography PhD program if they are approved as electives by the Graduate Advisor of Record.

C. 3 semester credit hours of the Capstone Course.

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<tr>
<th>Course</th>
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<tr>
<td>DEM 6383</td>
<td>Capstone</td>
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The grade report for the course is either “CR” (satisfactory performance) or “NC” (unsatisfactory performance).

D. Comprehensive Exam

The comprehensive exam will be a research paper evaluated by a committee of the departmental faculty.

Total Credit Hours 30

Doctor of Philosophy Degree in Applied Demography

Students accepted for admission into the Ph.D. program in Applied Demography have the opportunity to engage in advanced study and research in the field of Applied Demography as it applies to questions in such areas as public policy and administration, urban and regional planning, life sciences, medicine, business, and the social sciences. Depending on their area of focus, students may work with faculty from a variety of areas of study offered at UTSA.

The Applied Demography program prepares students to address the expanding education and research problems that are at the intersection of demography, public policy and administration, education, public health, and health care. Students may pursue careers in university departments that teach demography, university-based medical centers, public-health related organizations and agencies, health science centers, national and corporate settings, and local, state and federal government. Students are trained to examine the effects of demographic factors on policy - both private and public.

The regulations for this degree comply with the general University regulations (refer to Student Policies, General Academic Regulations, and the Graduate Catalog, Doctoral Degree Regulations).

Admission Requirements

In addition to satisfying the University-wide requirements for admission to graduate programs, all prospective students must have a bachelor’s degree and a Master of Science or Master of Arts degree from an accredited university in demography/sociology, geography, economics, biology, political science, statistics, mathematics, business, or a similar field. Students who have not earned a qualifying master’s degree may be required to complete the equivalent courses in the appropriate discipline area before admission to the Ph.D. program in Applied Demography.

In addition, applicants must submit:

An online application

1. Official transcripts of all undergraduate and graduate coursework completed
2. Graduate Record Examination (GRE) scores from a GRE-administered examination completed no more than five years prior to the Ph.D. student’s date of application. All applicants are required to submit scores from the GRE math, verbal, and analytical portions of the examination and scores for a related specialty area.
A. Core Research and Statistics Courses: 12

1. Nine semester credit courses of required courses:
   - DEM 7243 General Research Methods for Demographers
   - DEM 7273 Statistics for Demographic Data I
   - DEM 7283 Statistics for Demographic Data II

2. One additional course to be selected from the following (3 semester credit hours):
   - DEM 7023 Advanced Methods of Demographic Analysis
   - DEM 7223 Event History Analysis
   - DEM 7263 Spatial Demography
   - DEM 7473 Applied Hierarchical Modeling

B. Core Demography Courses: 18

1. Nine semester credit hours selected from the following courses:
   - DEM 7013 Demographic Methods of Analysis
   - DEM 7093 GIS for Population Science
   - DEM 7113 Social Demography and Community Trends

2. Nine semester credit hours of required courses:
   - DEM 7033 Mortality
   - DEM 7083 Fertility
   - DEM 7043 Migration
   - or DEM 7053 International Migration

C. Advanced Courses (a minimum of 12 semester credit hours selected from the following list or from approved electives is required):

- DEM 7063 Applied Demography in Policy Settings
- DEM 7073 Disparities in Health and Health Care
- DEM 7123 Applied Demography in Education
- DEM 7153 Applied Demography in Public Health
- DEM 7173 Applied Demography in Urban and Regional Planning
- DEM 7183 Social and Economic Impact Assessment
- DEM 7253 Survey Methods for Demographers
- DEM 7423 Demography of the Labor Force and Labor Markets
- DEM 7433 Demography of Race and Ethnicity
- DEM 7443 Demography of Adolescence and the Transition to Adulthood
- DEM 7413 Demography of Inequality and Poverty
- DEM 7453 Sexual and Reproductive Health
- DEM 7463 Family Demography
- DEM 7783 Internship in Applied Demography
- DEM 7803 Directed Research (Maximum 6 hours)
- DEM 7801 Directed Research (Maximum 6 hours)
- DEM 7811 Doctoral Research (Maximum 6 hours)
- DEM 7813 Doctoral Research (Maximum 6 hours)
- DEM 7816 Doctoral Research (Maximum 6 hours)
- DEM 7903 Special Topics (Maximum 9 hours)

D. Doctoral Dissertation (minimum 12 semester credit hours): 12

- DEM 7911 Doctoral Dissertation
- DEM 7913 Doctoral Dissertation
- DEM 7916 Doctoral Dissertation

Total Credit Hours: 54

Program of Study for Ph.D. in Applied Demography Concentration in Sociology

A. Core Research and Statistics Courses: 12

1. Required courses (9 semester credit hours):
   - DEM 7243 General Research Methods for Demographers
   - DEM 7273 Statistics for Demographic Data I
   - DEM 7283 Statistics for Demographic Data II

2. One additional course to be selected from the following (3 semester credit hours):
   - DEM 7023 Advanced Methods of Demographic Analysis
   - DEM 7223 Event History Analysis
   - DEM 7263 Spatial Demography
   - DEM 7473 Applied Hierarchical Modeling

B. Core Demography Courses: 18

1. Required Courses (9 semester credit hours):
   - DEM 7013 Demographic Methods of Analysis
   - DEM 7093 GIS for Population Science
   - DEM 7113 Social Demography and Community Trends

2. Three required courses to be selected from the following (9 semester credit hours):
   - DEM 7033 Mortality
   - DEM 7043 Migration
or DEM 7053 International Migration

DEM 7083 Fertility

C. **Four Advanced Concentrations Courses** to be selected from one of the following three concentrations (12 semester credit hours):

### 1. Health Concentration

a. One course (3 semester credit hours):

- DEM 7073 Disparities in Health and Health Care

b. Three courses to be selected from the following (9 semester credit hours):

- DEM 7153 Applied Demography in Public Health
- SOC 6133 Sociology of Health and Health Care
- SOC 6713 Health Care System in the United States
- SOC 6723 Religion, Health and Mortality
- SOC 6733 The Social Psychology of Health and Illness

### 2. Immigration Concentration

a. One course (3 semester credit hours):

- DEM 7433 Demography of Race and Ethnicity

b. Three courses (9 semester credit hours):

- DEM 7443 Demography of Adolescence and the Transition to Adulthood
- SOC 5223 Mexican Americans: Community, Culture, and Class
- SOC 5253 Border Studies
- SOC 6043 Immigration and Society

### 3. Family Concentration

a. One course (3 semester credit hours):

- DEM 7413 Demography of Race and Ethnicity

b. Three courses to be selected from the following (9 semester credit hours):

- DEM 7153 Applied Demography in Public Health
- SOC 6133 Sociology of Health and Health Care
- SOC 6713 Health Care System in the United States
- SOC 6723 Religion, Health and Mortality
- SOC 6733 The Social Psychology of Health and Illness

### D. Doctoral Dissertation (minimum 12 semester credit hours): 12

- DEM 7911 Doctoral Dissertation
- DEM 7913 Doctoral Dissertation
- DEM 7916 Doctoral Dissertation

**Total Credit Hours: 54**

The entire program of study must be approved by the student's dissertation advisor and graduate committee, and must be submitted to the Dean of the Graduate School through the Dean of the College of Public Policy for final approval.

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**Admission to Candidacy**

Advancement to candidacy requires that a student complete University and Applied Demography requirements. The student must choose a graduate committee and designate one faculty member as chair of that committee. This faculty member must be a member of the graduate faculty of UTSA. A degree plan must be submitted by each student to his or her specific graduate committee and must be approved by the committee before the end of the second semester of enrollment. The student may seek candidacy by taking and passing written and oral qualifying examinations. The written examination is administered by the graduate faculty. The oral qualifying examination will assess issues not adequately addressed in the student's written examination. The student will also submit and undergo an oral examination in defense of the student's dissertation proposal. Written qualifying examinations will be scheduled twice a year. Oral examinations are administered at the discretion of the student's committee and must meet the timeline and requirements of the University. All students must schedule a defense of their dissertation at which all members of their committee are present to examine the student and issue a pass/fail evaluation of the student's work. The Chair of the student's committee is responsible for approval of the final corrections of the student's dissertation.

**Dissertation**

Candidates must demonstrate the ability to conduct independent research by completing and defending an original dissertation. The research topic is determined by the student in consultation with his or her supervising professor. A dissertation committee, selected by the student in consultation with his or her supervising professor, guides and critiques the candidate's research. The completed dissertation must be formally presented and defended to, and approved by, the student's Dissertation Committee. Awarding of the degree is based on the approval of the Dissertation Committee. The UTSA Dean of the Graduate School certifies the completion of all University-wide requirements.

**Demography (DEM) Courses**

- **DEM 5013. Demographic Methods of Analysis. (3-0) 3 Credit Hours.**
  Prerequisite: Consent of instructor. Examines basic materials and methods used in demography, including methods for measuring levels and rates of population change, fertility, mortality, migration (both domestic and international), distribution, and composition. Emphasis on cohort and period patterns of change, methods of standardization, and life table methods and population projection methods. (Same as DEM 7013. Credit cannot be earned for both DEM 5013 and DEM 7013.) Course Fee: STSP $9.

- **DEM 5033. Mortality. (3-0) 3 Credit Hours.**
  Prerequisite: DEM 5113 or consent of instructor. Theoretical and demographic empirical analysis of current and historical issues concerning epidemiological/health transition, demographic and socioeconomic differentials in health and mortality, infant and child mortality, status of women and health, environment and health, demographic change and nutrition, health care systems, and health planning policies in the United States and in other developed and developing countries. Explores advanced sources of demographic data, measures, and methods of analyses used to analyze the levels and changes in these processes used in applied demographic settings. (Same as DEM 7033. Credit cannot be earned for both DEM 5033 and DEM 7033.) Course Fee: STSP $9.
DEM 5043. Migration. (3-0) 3 Credit Hours.
Prerequisite: DEM 5113 or consent of instructor. Examines patterns, trends and consequences of migration and immigration in the United States and other parts of the world. Explores historical and current theoretical perspectives on migration, analysis of historical, current and projected patterns of migration in the United States and other parts of the world, and examines effects of migration on other demographic, economic, social, and political factors in the United States and elsewhere. (Same as DEM 7043. Credit cannot be earned for both DEM 5043 and DEM 7043.) Course Fee: STSP $9.

DEM 5083. Fertility. (3-0) 3 Credit Hours.
Prerequisite: DEM 5113 or consent of instructor. Theoretical and empirical overview of major issues and methodological approaches in the demographic study of human fertility in developing and developed countries. Explores advanced sources of demographic data, measures, and demographic methods of analyses used to analyze the levels and changes in these processes used in applied settings. (Same as DEM 7083. Credit cannot be earned for both DEM 5083 and DEM 7083.) Course Fee: STSP $9.

DEM 5093. GIS for Population Science. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course is designed to give graduate students interested in population science and policy fields a hands-on introduction to the use of Geographic Information Systems (GIS). The course will cover geographic data types, spatial data creation and management, exploratory spatial analysis, and basics of geospatial modeling. At the close of the course, students are expected to be able to: create and modify geographic data, perform GIS visualization of spatial data, use database software to manage geographic data and perform descriptive analysis of spatial data using industry-standard GIS software. (Same as DEM 7093. Credit cannot be earned for both DEM 5093 and DEM 7093.) Course Fee: STSP $9.

DEM 5113. Social Demography and Community Trends. (3-0) 3 Credit Hours.
This seminar is a survey of the major themes in demographic research. It will focus on the causes and consequences of demographic change and world population problems and policies, and we will explore the major theoretical perspectives focusing on the interrelationship of social and environmental causes of population change and the dynamics of human populations. (Same as DEM 7113. Credit cannot be earned for both DEM 5113 and DEM 7113.) Course Fee: STSP $9.

DEM 5213. Introduction to Population Data. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. The purpose of this course is to introduce students to demographic data and how to use them effectively. Students will use statistical software to learn how to read-in raw data, make data modifications relative to research goals, assess data quality, and conduct basic descriptive statistics. The course will also teach students how to make use of data codebooks and request the use of restricted data. Course Fee: STSP $9.

DEM 5273. Statistics for Demographic Data I. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course covers two main areas of statistical analysis. First, techniques for the description of univariate and bivariate distributions are covered, including summary statistics, confidence intervals, correlations, graphical exploratory methods and hypothesis testing for two and more groups. Also covered is the analysis of categorical data, including analysis of contingency tables and measures of association for categorical data. Secondly, ordinary least squares regression analysis and analysis of variance procedures and their diagnostics are covered. All methods are complemented by the application to demographic survey data sets and instruction in the Linux environment using either SAS, STATA or R statistical programming languages. (Same as DEM 7273. Credit cannot be earned for both DEM 5273 and DEM 7273.) Course Fee: STSP $9.

DEM 5283. Statistics for Demographic Data II. (3-0) 3 Credit Hours.
Prerequisite: DEM 5273 or consent of instructor. This course represents an in-depth coverage of the general linear model framework, including multivariable regression analysis, logistic and Poisson regression and multilevel modeling. Model fit, model comparison and regression diagnostics for each method are covered. In addition to these topics, students are introduced to techniques for dealing with missing data including multiple imputation. All methods are complemented by the application to demographic survey data sets and instruction in the Linux environment using both the SAS and R/S-plus statistical programming languages. (Same as DEM 7283. Credit cannot be earned for both DEM 5283 and DEM 7283.) Course Fee: STSP $9.

DEM 6383. Capstone. (3-0) 3 Credit Hours.
Prerequisite: Completion of 21 semester credit hours of Required Courses. This course is designed to prepare students to write a final exit paper that serves as the comprehensive exam for completion of the MS program. It covers topics including but not limited to: Demographic Data, Research Methods, Quantitative Analysis, Demographic Processes, Health, and/or Inequality. The grade report for the course is either "CR" (satisfactory performance on the final exit paper) or "NC" (unsatisfactory performance on the final exit paper). Course Fee: STSP $9.

DEM 7013. Demographic Methods of Analysis. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. Examines basic materials and methods used in demography, including methods for measuring levels and rates of population change, fertility, mortality, migration (both domestic and international), distribution, and composition. Emphasis on cohort and period patterns of change, methods of standardization, and life table methods and population projection methods. (Formerly titled "Demographic Methods of Analysis I") (Same as DEM 5013. Credit cannot be earned for both DEM 5013 and DEM 7013.) Course Fee: STSP $9.

DEM 7023. Advanced Methods of Demographic Analysis. (3-0) 3 Credit Hours.
Prerequisite: DEM 7013 or consent of instructor. Examines use of advanced demographic and statistical methods of analysis of population and sample data, including simulating, adjusting, and smoothing; advanced survival analysis, methods of rate decomposition and standardization, population estimation, population projections and evaluations of each. Considers applications of demographic techniques in marketing, management and impact analyses in business and government. (Formerly titled "Demographic Methods of Analysis II.") Course Fee: STSP $9.
DEM 7033. Mortality. (3-0) 3 Credit Hours.
Prerequisite: DEM 7113 or consent of instructor. Theoretical and
demographic empirical analysis of current and historical issues
concerning epidemiological/health transition, demographic and
socioeconomic differentials in health and mortality, infant and child
mortality, status of women and health, environment and health,
demographic change and nutrition, health care systems, and health
planning policies in the United States and in other developed and
developing countries. Explores advanced sources of demographic data,
measures, and methods of analyses used to analyze the levels and
changes in these processes used in applied demographic settings. (Same
as DEM 5033. Credit cannot be earned for both DEM 5033 and DEM
7033.) Course Fee: STSP $9.

DEM 7043. Migration. (3-0) 3 Credit Hours.
Prerequisite: DEM 7113 or consent of instructor. Examines patterns,
trends and consequences of migration and immigration in the United
States and other parts of the world. Explores historical and current
theoretical perspectives on migration, analysis of historical, current and
projected patterns of migration in the United States and other parts of
the world, and examines effects of migration on other demographic,
economic, social, and political factors in the United States and elsewhere.
(Same as DEM 5043. Credit cannot be earned for both DEM 5043 and
DEM 7043.) Course Fee: STSP $9.

DEM 7053. International Migration. (3-0) 3 Credit Hours.
Prerequisite: DEM 7113 or consent of instructor. Examines the
determinants and consequences of international migration from
theoretical and empirical perspectives. Explores impacts on the
migrants themselves and the countries of origin and destination.
Specific issues include global competition for skilled labor, the concept
of 'replacement migration', and the role of the state in creating and
regulating international population movements. Examines public policy
implications of the volume and composition of migration for origin and
destination countries. Course Fee: STSP $9.

DEM 7063. Applied Demography in Policy Settings. (3-0) 3 Credit Hours.
Prerequisites: DEM 7013, DEM 7023 and DEM 7113, or consent of
instructor. Student must have a minimum of 30 credit hours in the
Applied Demography doctoral program. Examines the roles, duties and
implications of being an applied demographer in private- and
public-sector policy settings, including required professional skills
and knowledge. Provides practical case-study based experience in
applying demographic knowledge and methods to such areas of
applied analysis as marketing research, site location analysis, impact
analyses, advertising analyses, program evaluation, short-term and long-
term planning, and similar areas of policy development. Emphasis on
interactive and team-based case-study analyses resulting in written
reports, and findings presented to governmental or private-sector
decision makers. Course Fee: STSP $9.

DEM 7073. Disparities in Health and Health Care. (3-0) 3 Credit Hours.
Prerequisites: DEM 7013 and DEM 7113 or consent of instructor.
Overview of current and historical trends and differentials of health,
healthcare access, and healthcare delivery systems among different
racial/ethnic, socioeconomic, and residence area groups in the United
States and elsewhere. Examines differentials in the types and rates of
incidence and occurrence of alternative forms of disease and disorders,
and access to physicians, hospitals and forms of treatment across
demographic and socioeconomic groups. Data and methods for
assessing such disparities are reviewed and alternative policy options for
decreasing such disparities are discussed. Course Fee: STSP $9.

DEM 7083. Fertility. (3-0) 3 Credit Hours.
Prerequisite: DEM 7113 or consent of instructor. Theoretical and
empirical overview of major issues and methodological approaches in
the demographic study of human fertility in developing and developed
countries. Explores advanced sources of demographic data, measures,
and demographic methods of analyses used to analyze the levels and
changes in these processes used in applied settings. (Same as DEM
5083. Credit cannot be earned for both DEM 5083 and DEM 7083.) Course
Fee: STSP $9.

DEM 7093. GIS for Population Science. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course is designed to give
graduate students interested in population science and policy fields a
hands-on introduction to the use of Geographic Information Systems
(GIS). The course will cover geographic data types, spatial data creation
and management, exploratory spatial analysis, and basics of geospatial
modeling. At the close of the course, students are expected to be able to:
create and modify geographic data, perform GIS visualization of spatial
data, use database software to manage geographic data and perform
descriptive analysis of spatial data using industry-standard GIS software.
(Same as DEM 5093. Credit cannot be earned for both DEM 5093 and
DEM 7093.) Course Fee: STSP $9.

DEM 7113. Social Demography and Community Trends. (3-0) 3 Credit
Hours.
This seminar is a survey of the major themes in demographic research.
It will focus on the causes and consequences of demographic change
and world population problems and policies, and we will explore the major
theoretical perspectives focusing on the interrelationship of social and
environmental causes of population change and the dynamics of human
populations. (Same as DEM 5113. Credit cannot be earned for both DEM
5113 and DEM 7113.) Course Fee: STSP $9.

DEM 7123. Applied Demography in Education. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. Objectives for this course are focused
upon development of an understanding of demographic issues in the
field of education and skills in the application of demographic methods
and techniques in this area. Topics will include issues of population
dynamics related to school enrollment and completion and application
of demographic techniques relevant for education related topics. Course
Fee: STSP $9.

DEM 7153. Applied Demography in Public Health. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. Course work and readings will provide
overview of demographic methods applied to examination of issues in
the area of public health. A range of public health and epidemiologic
topics will be reviewed in relation to issues related to demography
and demographic methods. Assignments will provide students with
opportunities to examine key issues in public health and explore specific
topics of public health relevance. Course Fee: STSP $9.

DEM 7173. Applied Demography in Urban and Regional Planning. (3-0) 3
Credit Hours.
Prerequisite: Consent of instructor. Urban and regional planning is
strongly dependent on information generated from applied demography.
This course will review the field of urban and regional planning with
particular reference to the use of demographic information. Elements
of the course will emphasize learning and applying traditional and
innovative approaches to estimating and projecting population for small
areas with particular reference to issues of geography and land use
DEM 7183. Social and Economic Impact Assessment. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. The purpose of this course is to provide students with an understanding of the requirements of methodologies for, and issues in, socioeconomic impact assessment and to provide practical, working experience with socioeconomic impact assessment techniques. Course Fee: STSP $9.

DEM 7223. Event History Analysis. (3-0) 3 Credit Hours.
Prerequisites: DEM 7013, DEM 7023, and DEM 7273 or consent of instructor. This course covers event history analysis for events such as unemployment spans, birth intervals, years of healthy life lived, and other codependent demographic events. Further, this course will provide a survey of demographic analytical methods for empirically explaining variation in timing of demographic events. This course will use SAS, R or STATA software. (Formerly titled "Advanced Methods for Life Table Analysis.") Course Fee: STSP $9.

DEM 7243. General Research Methods for Demographers. (3-0) 3 Credit Hours.
Prerequisites: DEM 7013 and DEM 7113 or consent of instructor. Examines key aspects of research methodology and provides an understanding and overview of practical and theoretical methods used to include sampling, interviewing, questionnaire and survey construction, and methods of analysis. The course will examine alternative research perspectives used in writing major publishable articles, and a dissertation in demography. Course Fee: STSP $9.

DEM 7253. Survey Methods for Demographers. (3-0) 3 Credit Hours.
Prerequisite: DEM 7243 or consent of instructor. This course examines the use of survey methodology and the research process, with special attention given to survey instruments as they relate to demographic research. Topics to be covered include a general overview of large demographic surveys, modes of data collection, questionnaire design, reliability and validity, sampling, and analysis incorporating survey designs for various large-scale demographic surveys. Special attention will be given to data collected by the U.S. Bureau of the Census. Statistical software applications will be used as they relate to demographic survey instruments. (Formerly titled "General Research Methods for Demographers II.") Course Fee: STSP $9.

DEM 7263. Spatial Demography. (3-0) 3 Credit Hours.
Prerequisite: DEM 7093 or consent of instructor. This course will give an in-depth coverage of spatial demographic processes including models of migration, multiregional population growth, and spatial dependence in vital rates. The course will include a brief introduction to Geographic Information Systems, availability of spatial data and construction of geo-databases for population studies. The course will have a large analytical component with topics to include global and local spatial autocorrelation, analysis of spatial point patterns, neighborhood statistics and spatial regression analysis. Emphasis is placed on usage of computer software for the analysis of population data. Course Fee: STSP $9.

DEM 7273. Statistics for Demographic Data I. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course covers two main areas of statistical analysis. First, techniques for the description of univariate and bivariate distributions are covered, including summary statistics, confidence intervals, correlations, graphical exploratory methods and hypothesis testing for two and more groups. Also covered is the analysis of categorical data, including analysis of contingency tables and measures of association for categorical data. Secondly, ordinary least squares regression analysis and analysis of variance procedures and their diagnostics are covered. All methods are complemented by the application to demographic survey data sets and instruction in the Linux environment using either SAS, STATA or R statistical programming languages. (Formerly titled "Univariate and Categorical Statistical Analysis for Demographic Data.") (Same as DEM 5273. Credit cannot be earned for both DEM 5273 and DEM 7273.) Course Fee: STSP $9.

DEM 7283. Statistics for Demographic Data II. (3-0) 3 Credit Hours.
Prerequisite: DEM 7273 or consent of instructor. This course represents an in-depth coverage of the general linear model framework, including multivariable regression analysis, logistic and Poisson regression and multilevel modeling. Model fit, model comparison and regression diagnostics for each method are covered. In addition to these topics, students are introduced to techniques for dealing with missing data including multiple imputation. All methods are complemented by the application to demographic survey data sets and instruction in the Linux environment using both the SAS and R/S-plus statistical programming languages. (Formerly titled "Multivariate Statistical Analysis for Demographic Data.") (Same as DEM 5283. Credit cannot be earned for both DEM 5283 and DEM 7283.) Course Fee: STSP $9.

DEM 7413. Demography of Inequality and Poverty. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This seminar provides an overview of poverty in the United States from a comparative perspective. It addresses the determinants of poverty, with special attention given to different demographic groups, such as single women with children, race and ethnic minorities, and urban and rural residence. Among the topics to be discussed include the differences between the European and U.S. approach to measuring poverty; the relationship between welfare policies, population growth, and economic development; race and welfare; and the 1996 welfare reform in the United States and its consequences to date. Much emphasis will be given to poverty-abatement strategies. (Formerly titled "Demographic Perspectives on Poverty.") Course Fee: STSP $9.

DEM 7423. Demography of the Labor Force and Labor Markets. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course introduces students to the study of demographics characteristics of the labor force and of labor markets. It addresses such major social and economic trends as the increased labor force participation of women, the integration of formerly disenfranchised groups into white-collar occupations, and the emergence of a service society. Literature that can help explain these trends will come from gender studies, race and ethnicity, and post-industrialization, in addition to demographic research. Other topics to be discussed cover the study of occupational upgrading; employment, unemployment, and underemployment; regional shifts in employment; the work family relationship; and the role of social policy regarding work, family, and fertility. Course Fee: STSP $9.
DEM 7433. Demography of Race and Ethnicity. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This course is designed to introduce students to the study of the demography of racial and ethnic groups in the United States with some attention to other parts of the world. Using theoretical perspectives drawn from the demographic and race and ethnic literatures, the course will examine demographic, social, and economic variations among major racial and ethnic groups. The course is divided into a series of broad topics covering the study of the demography of racial and ethnic groups including an overview of the construction of race and ethnicity; theoretical perspectives; the foundations of inequality; data and methodological issues; the three population processes (fertility, mortality, and migration); intermarriage and multiracial and pan-ethnic identities; marriage, family, and household arrangements; and labor market and socioeconomic outcomes. Course Fee: STSP $9.

DEM 7443. Demography of Adolescence and the Transition to Adulthood. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. Demographers have long considered adolescence and early adulthood as a critical period when significant life choices are made. Important milestones overlap during these years as young people leave school, begin work, form romantic relationships, become independent from parents and begin forming their own families. This seminar explores the different factors that define the timing and progression of this transition and explores demographic and policy implications across different social and cultural contexts. It also highlights the relevance of the life course for the understanding of demographic processes. Course Fee: STSP $9.

DEM 7453. Sexual and Reproductive Health. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. The purpose of this course is to introduce students to a number of sexual and reproductive health issues nationally and internationally. The course content will emphasize demographic, social, economic, behavioral, and political factors that affect family planning, reproductive health, fertility, parenthood, and pregnancy/birth outcomes. Emergent sources of data for sexual and reproductive health issues will be discussed. Course Fee: STSP $9.

DEM 7463. Family Demography. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. This seminar will examine changes in family behaviors and household relationships from a socio-demographic perspective. Specific topics include union formation and dissolution, childbearing, parenthood, intergenerational relationships, and the intersection of gender, work, and family. Although this course will focus primarily on post-World War II United States, some attention will also be given to recent family changes in other industrialized nations and in the developing world. Demographic data sources pertaining to families and households will be discussed. Course Fee: STSP $9.

DEM 7473. Applied Hierarchical Modeling. (3-0) 3 Credit Hours.
Prerequisite: DEM 7283 or consent of instructor. This course will immerse students in the area of hierarchical modeling. Hierarchical models are fast becoming ubiquitous in the social and behavioral sciences as the availability of longitudinal, geocoded-restricted and panel data sources become the norm. This class will apply techniques of Bayesian computation to hierarchical modeling with less emphasis on the theory of Bayesian analysis, and more on the practical side of its use. Topics will include linear and generalized linear mixed effects models, with special attention to structured random effect models, models for longitudinal data and the application of Bayesian computational techniques. Data examples will include the use of social and health survey data sources, and all students are expected to complete a project using the methods presented in class to their own research interests. Course Fee: STSP $9.

DEM 7701. Professional Development Colloquium. (1-0) 1 Credit Hour.
Prerequisite: Consent of instructor. This is a professional development course focusing on the field of applied demography. Topics will vary by semester, and may include such things as grant writing, proposal preparation, peer-reviewed journal publication procedures, presentation development, demographic data sources and literature, grant funding sources, and job hunting. Other professional development topics will be addressed. May be repeated for credit when topics vary. Course Fee: STSP $3.

DEM 7783. Internship in Applied Demography. (0-0) 3 Credit Hours.
Prerequisites: Consent of faculty advisor for internships and the Graduate Advisor of Record. Student must have a minimum of 40 semester credit hours in the Applied Demography doctoral program. Practical experience in a workplace setting approved by the faculty advisor for internships and the GAR in which classroom knowledge of demographic research, methods, processes, and implications are applied. No more than 3 hours will apply to the Doctoral degree. A research paper under the supervision of assigned faculty is required at the end of the internship. Course Fee: STSP $9.

DEM 7801. Directed Research. (0-0) 1 Credit Hour.
Prerequisites: Consent of instructor and a minimum of 40 semester credit hours in the Applied Demography doctoral program. Directed individual reading, discussion, writing, and/or studies of selected topics in the field of demography. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours will apply to the Doctoral degree. Course Fee: STSP $3.

DEM 7803. Directed Research. (0-0) 3 Credit Hours.
Prerequisites: Consent of instructor and a minimum of 40 semester credit hours in the Applied Demography doctoral program. Directed individual reading, discussion, writing, and/or studies of selected topics in the field of demography. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours will apply to the Doctoral degree. Course Fee: STSP $3.

DEM 7811. Doctoral Research. (0-0) 1 Credit Hour.
Prerequisites: Permission of the Ph.D. Graduate Advisor of Record and dissertation director. Preparation and writing of dissertation proposal. May be repeated for credit, but not more than 6 hours will apply to the Doctoral degree. Course Fee: STSP $3.

DEM 7813. Doctoral Research. (0-0) 3 Credit Hours.
Prerequisites: Permission of the Ph.D. Graduate Advisor of Record and dissertation director. Preparation and writing of dissertation proposal. May be repeated for credit, but not more than 6 hours will apply to the Doctoral degree. Course Fee: STSP $3.

DEM 7816. Doctoral Research. (0-0) 6 Credit Hours.
Prerequisites: Permission of the Ph.D. Graduate Advisor of Record and dissertation director. Preparation and writing of dissertation proposal. May be repeated for credit, but not more than 6 hours will apply to the Doctoral degree. Course Fee: STSP $18.

DEM 7901. Special Topics. (1-0) 1 Credit Hour.
Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. May be repeated for credit when topics vary, but not more than 6 hours, regardless of discipline, will apply to the Doctoral degree in Applied Demography. Course Fee: STSP $3.
DEM 7902. Special Topics. (2-0) 2 Credit Hours.
Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. May be repeated for credit when topics vary, but not more than 6 hours, regardless of discipline, will apply to the Doctoral degree in Applied Demography. Course Fee: STSP $6.

DEM 7903. Special Topics. (3-0) 3 Credit Hours.
Prerequisite: Consent of instructor. An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. May be repeated for credit when topics vary, but not more than 6 hours, regardless of discipline, will apply to the Doctoral degree in Applied Demography. Course Fee: STSP $9.

DEM 7911. Doctoral Dissertation. (0-0) 1 Credit Hour.
Prerequisite: Admission to Candidacy for the Doctoral degree in Applied Demography. May be repeated for credit, but not more than 12 hours may be applied to the Doctoral degree. Course Fee: STSP $3.

DEM 7913. Doctoral Dissertation. (0-0) 3 Credit Hours.
Prerequisite: Admission to Candidacy for the Doctoral degree in Applied Demography. May be repeated for credit, but not more than 12 hours may be applied to the Doctoral degree. Course Fee: STSP $9.

DEM 7916. Doctoral Dissertation. (0-0) 6 Credit Hours.
Prerequisite: Admission to Candidacy for the Doctoral degree in Applied Demography. May be repeated for credit, but not more than 12 hours may be applied to the Doctoral degree. Course Fee: STSP $18.